

**PCT**WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/FI00/00100

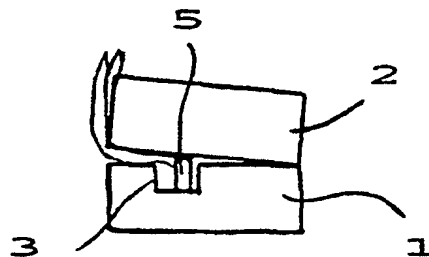
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990367 22 February 1999 (22.02.99) FI(71)(72) Applicant and Inventor: KINNUNEN, Pasi [FI/FI];  
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Box 1750, FIN-70211 Kuopio (FI).(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).**Published***With international search report.  
In English translation (filed in Finnish).*

(54) Title: HEATING MEANS

## (57) Abstract

The invention relates to a heating implement which comprises at least two frame parts (1, 2) which have been made from wood and are placed one on top of the other, at least one of which has at least one groove (3), or corresponding formation, for leading the combustion air into the structure of the heating implement. A heating implement formed in accordance with the invention has one or more spacing pieces (4) located in the groove (3), which are placed between the frame parts to form an air gap between them.



# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>KINNUNEN</b>	<b>FOR FURTHER ACTION</b>		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. <b>PCT/FI00/00100</b>	International filing date (day/month/year) <b>11.02.2000</b>	Priority date (day/month/year) <b>22.02.1999</b>	
International Patent Classification (IPC) or national classification and IPC <sub>7</sub> <b>C10L 5/44, C10L 11/06</b>			
Applicant <b>KINNUNEN, Pasi</b>			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.  
  
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
  
 These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  <b>25.08.2000</b>	Date of completion of this report  <b>05.04.2001</b>
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. 08-667 72 88	Authorized officer  <b>Mårten Hulthén/MP</b> Telephone No. 08-782 25 00

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/FI00/00100

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
 pages 1-6, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement) under article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages 7, filed with the letter of 19.03.2001
- ☒ the drawings:  
 pages 1-2, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheet/fig \_\_\_\_\_

### 5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2 (c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	<u>1-6</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-6</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-6</u>	YES
	Claims		NO

### 2. Citations and explanations (Rule 70.7)

Amended claims 1-6 were filed on 19 March 2001.

The invention relates to a heating implement consisting of two or more wooden pieces. At least one of the wooden pieces is provided with a groove. A spacing piece located in the groove can be placed to form an air gap between the wooden pieces.

Document US 4116645 (figures 1-3, 8-9; column 2, line 65 - column 3, line 8) discloses a number of wooden pieces (27,29,30) and a spacing piece (starter 20) that forms an air gap between the wooden pieces. The document does not show a groove in a frame part as stated in claim 1 of the application. Furthermore, there is no hole in at least one of the frame parts for the flame, as stated in claim 1. Consequently, the invention is novel.

The stated differences imply an improvement in respect of constructing a compact and easily portable solid fuel that burns reliably. The heating implement as defined by claims 1-6 is considered to involve an inventive step and to fulfil the criteria of industrial applicability.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 00/00100

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: C10L 5/44, C10L 11/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: C10L, A47J, B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4116645 A (CHARLES J. DALZELL), 26 Sept 1978 (26.09.78), figures 1-3,8-9, claims 1,3 --	1,3-7
A	US 3877886 A (CHARLES J. DALZELL), 15 April 1975 (15.04.75), figures 1,3, abstract --	1-7
A	US 4243394 A (THOMAS R. KINCAID), 6 January 1981 (06.01.81), column 3, line 20 - line 31, figure 35 --	1-7
A	WO 9639475 A1 (OY EKOMARKKINOINTI LTD.), 12 December 1996 (12.12.96), abstract --	1-7

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

## \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

25 May 2000

Date of mailing of the international search report

14 -06- 2000

Name and mailing address of the ISA/

Swedish Patent Office

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 00/00100

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 696267 A (C. POLLARD), 25 March 1902 (25.03.02), claim 1  --	1-7
A	WO 9721791 A1 (TURUNEN, ASKO, OLAVI), 19 June 1997 (19.06.97), figures 1-3, abstract  -- -----	1-7

# INTERNATIONAL SEARCH REPORT

Information on patent family members

02/12/99

International application No.

PCT/FI 00/00100

Patent document cited in search report			Publication date	Patent family member(s)		Publication date
US	4116645	A	26/09/78	NONE		
US	3877886	A	15/04/75	CA	1011950 A	14/06/77
				JP	50032201 A	28/03/75
US	4243394	A	06/01/81	DE	3005270 A	28/08/80
				FR	2449121 A	12/09/80
				NL	8000915 A	18/08/80
				NO	800392 A	15/08/80
				PT	70825 A	01/03/80
				SE	8001112 A	15/08/80
WO	9639475	A1	12/12/96	AU	5695596 A	24/12/96
				FI	2089 U	20/09/95
				FI	950291 V	05/06/95
US	696267	A	25/03/02	NONE		
WO	9721791	A1	19/06/97	AU	1098797 A	03/07/97
				FI	2288 U	25/01/96
				FI	950521 D,V	13/12/95
				FI	964943 A	14/06/97